

Patent Claims:

1 – 22 (canceled)

23. (new) A device for the generation or destruction of eddies in a flow medium, comprising:

a profile arranged in a flow duct such that the flow medium flows around the profile,

wherein the profile is assigned an external drive designed for the generation of a periodic oscillating movement of the respective profile in relation to the flow medium with an angular frequency ω .

24. (new) The device as claimed in claim 23, wherein a shape and a size of the profile are selected such that during operation a quotient of the flow velocity averaged over a movement period of the profile and a maximum flow velocity at a profile trailing edge has a predetermined value.

25. (new) The device as claimed in claim 23, wherein the periodic oscillating movement provided is a pivoting movement of the profile that results from a rotation of the profile about an axis of rotation that is perpendicular to a flow direction of the flow medium through an angle φ .

26. (new) The device as claimed in claim 25, wherein the flow duct has two profiles arranged within that oscillate with the same angular frequency ω and an opposite phase about their respective axis of rotation and the axes of rotation are oriented parallel to each other.

27. (new) The device as claimed in claim 23, wherein the periodic oscillating movement is comprised of a periodic displacement of the profile perpendicular to the flow direction of the flow medium.

28. (new) The device as claimed in claim 23, wherein the periodic oscillating movement is comprised of a periodic displacement of the profile parallel to the flow direction of the flow medium.

29. (new) The device as claimed in claim 23, wherein the periodic oscillating movement is comprised of a combination of a displacement of the profile in relation to the flow duct and of a rotation of the profile about an axis of rotation.

30. (new) The device as claimed in claim 23, wherein the device is followed by a device arranged on a flow medium side, for the destruction of vortices.

31. (new) The device as claimed in claim 23, wherein the device comprises a plurality of profiles that execute the periodic oscillating movement with the same angular frequency ω and the same phase and is arranged in a flow duct of a conveying zone for the transport of the flow medium.

32. (new) The device as claimed in claim 23, wherein the device comprises a plurality of profiles that execute the periodic oscillating movement with the same angular frequency ω and the same phase and is arranged preceding an axial cascade for the throughflow of the flow medium.

33. (new) The device as claimed in claim 23, wherein the device is located within a gas turbine.

34. (new) A mixing zone for the mixing of one or more flow media with one another, comprising:

a flow duct through which the flow media are capable of flowing; and

a profile arranged in the flow duct such that the flow medium flow around the profile,

wherein the profile is assigned an external drive designed for the generation of a periodic oscillating movement of the respective profile in relation to the flow medium with an angular frequency ω .

35. (new) A method for the generation of eddies in a flow medium, comprising:

arranging a profile in a flow duct and provided for flow around by the flow medium, and

periodically oscillating the profiles with an angular frequency ω by an external drive.

36. (new) The method as claimed in claim 35, wherein the direction of energy transmission between the moved profile and the flow medium is set via a quotient of a flow velocity averaged over a movement period of the profile with respect to a mean cross section of the profile and a maximum flow velocity at the trailing edge of the profile.

37. (new) The method as claimed in claim 35, wherein the direction of energy transmission between the profile and the flow medium is established via the product of the maximum flow velocity of a trailing edge of the profile and of an elongation of a flow-around profile, divided by a kinematic viscosity of the flow medium.

38. (new) The method as claimed in claim 35, wherein the generated eddies are completely or partially destroyed downstream of a position in the flow duct at which they were generated.

39. (new) The method as claimed in claim 35, wherein the method is used for the transport of a flow medium through a flow duct.

40. (new) The method as claimed in claim 35, wherein the method is used for increasing the efficiency of a cascade flow of the flow medium through a cascade arranged within the flow duct.

41. (new) The method as claimed in claim 35, wherein the method is used for cooling components subjected to high thermal load by means of a flow medium.

42. (new) The method as claimed in claim 35, wherein the method is used for mixing one or more flow media in a flow duct.